



# CM 101

## A Basic Introduction



**TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.**

**Joseph Herman, Jr.**

**TARDEC CM Team**

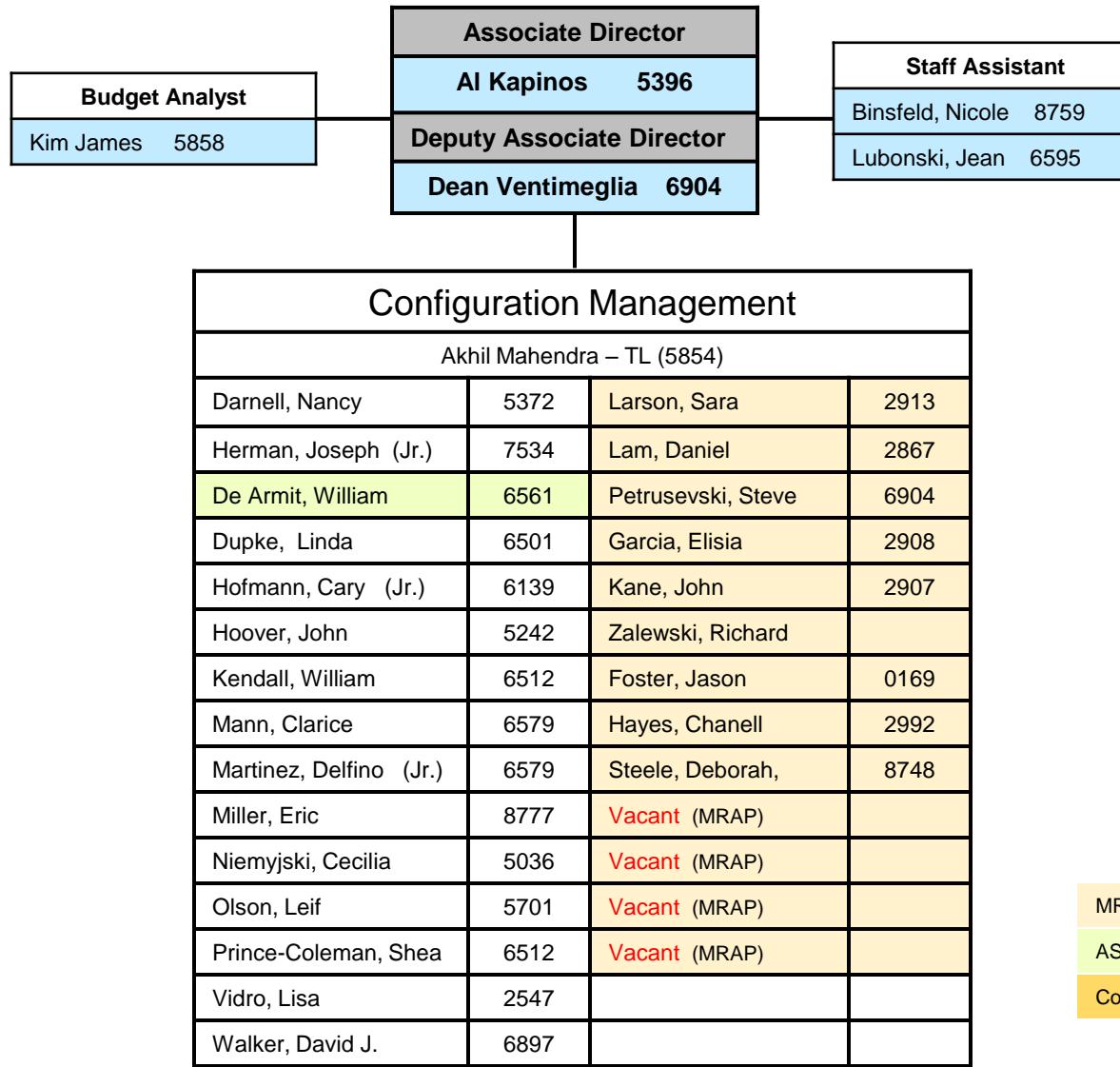
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# PLDM Business Area Configuration Management Team

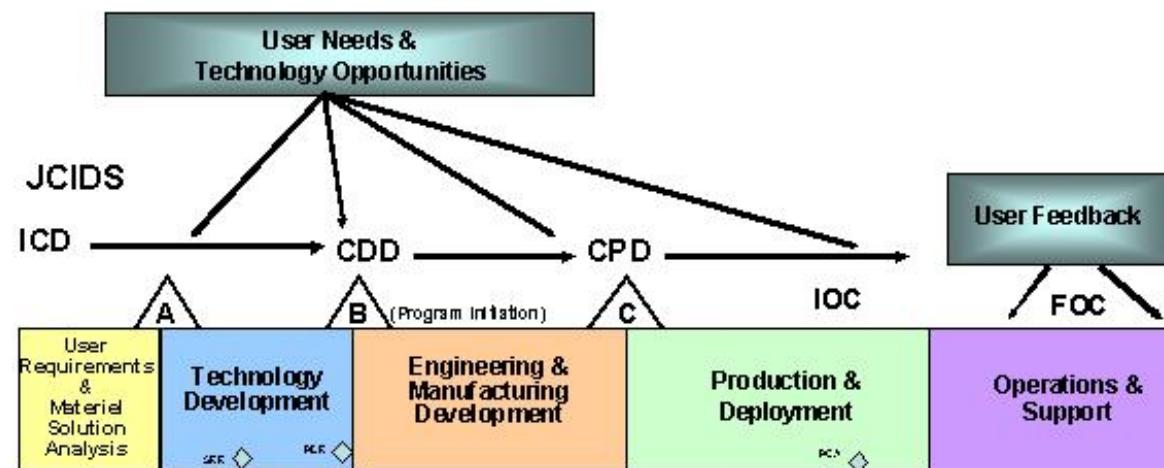


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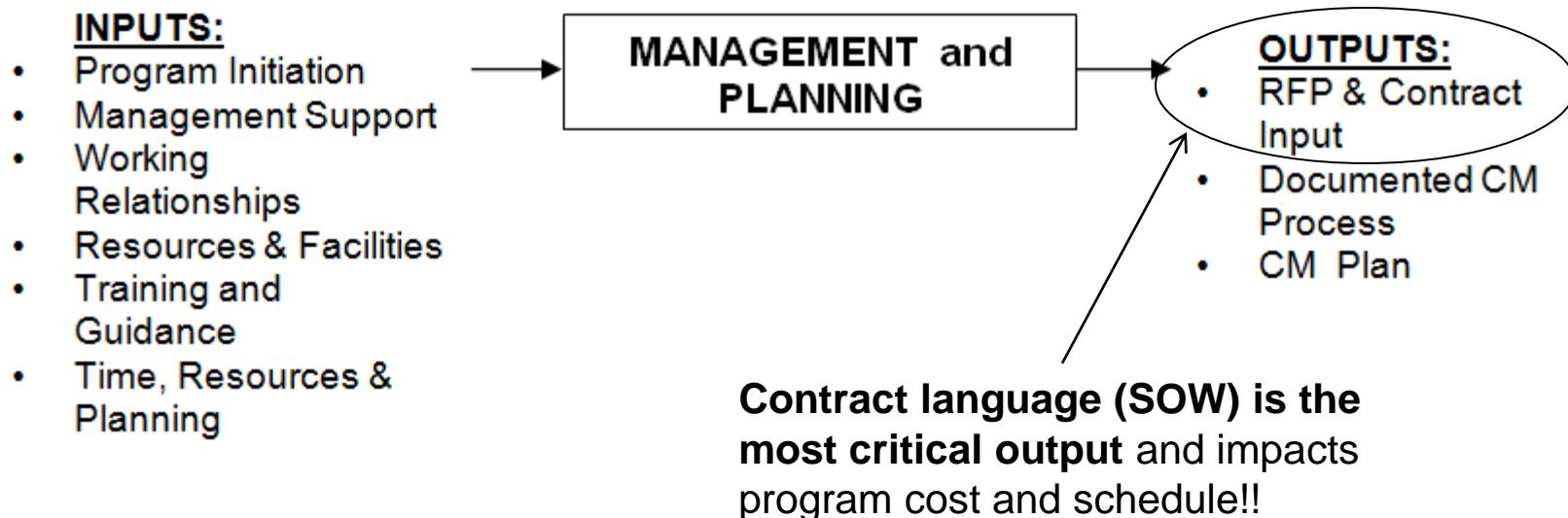
A process for establishing and maintaining consistency of a product's performance, functional and physical attributes with its requirements, design and operational information *throughout its life*.



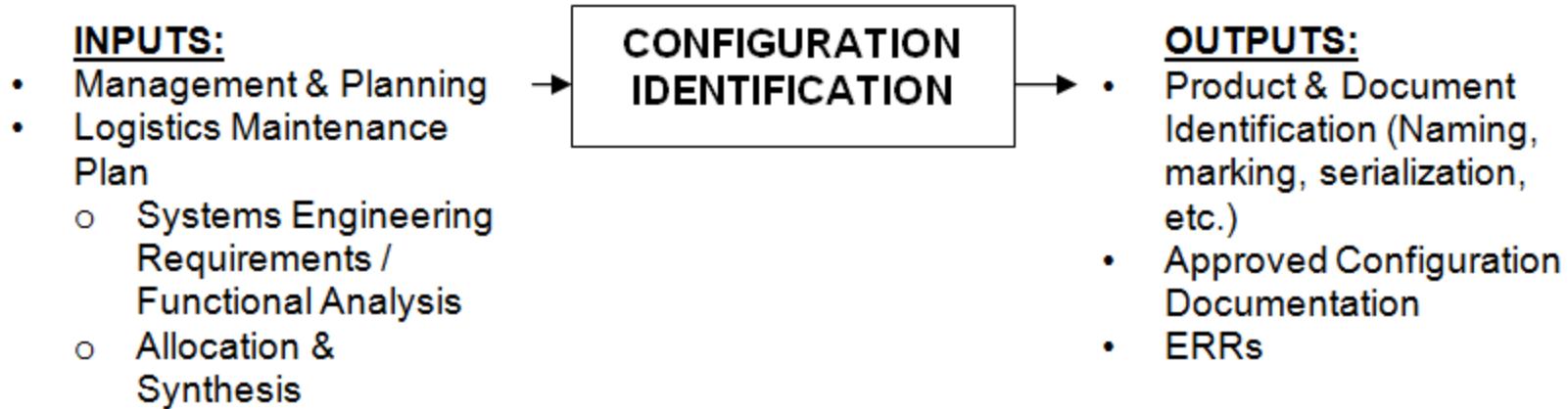
- Management & planning
- Configuration identification
- Configuration Status Accounting (CSA)
- Configuration verification & audits
- Configuration control
- Digital data management



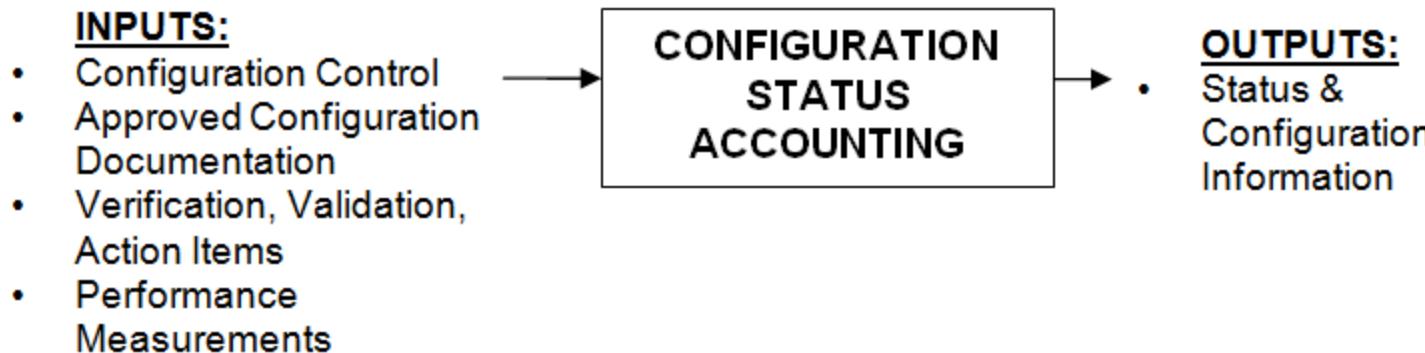
- A continuous task
- Synchronized with the Acquisition Strategy, System Engineering and Logistical Planning
- Implies a defined CM Process and the use of CM Process metrics



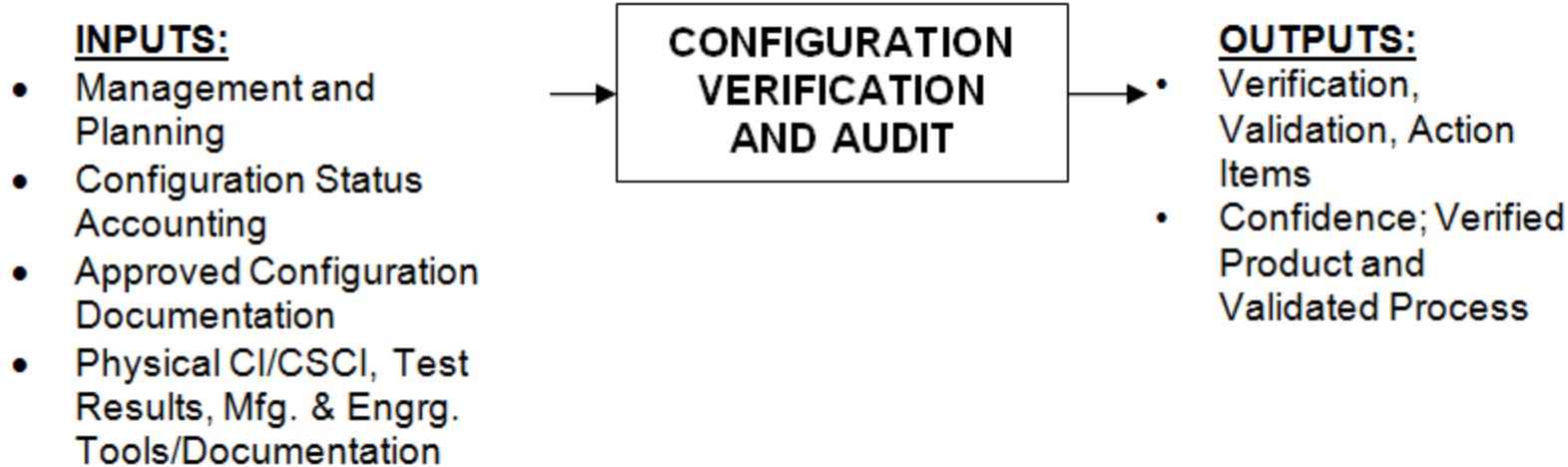
- The Performing Activity selects items for management
- Must have unique identification of products and documents
- Is driven by acquisition & support planning
- May use the Product Work Breakdown Structure to assist in identifying top-level items



- Provides a listing of baselines
- Provides the status of changes & audits
- Ensures all use the same design and documentation
- Defines and populates a database of products and associated documentation



- Does product meet requirements?
- Does documentation match product?
- Two primary types of audits
  - Functional Configuration Audit (FCA)
  - Physical Configuration Audits (PCA)





# Configuration Audits Explained



## Functional Configuration Audit (FCA):

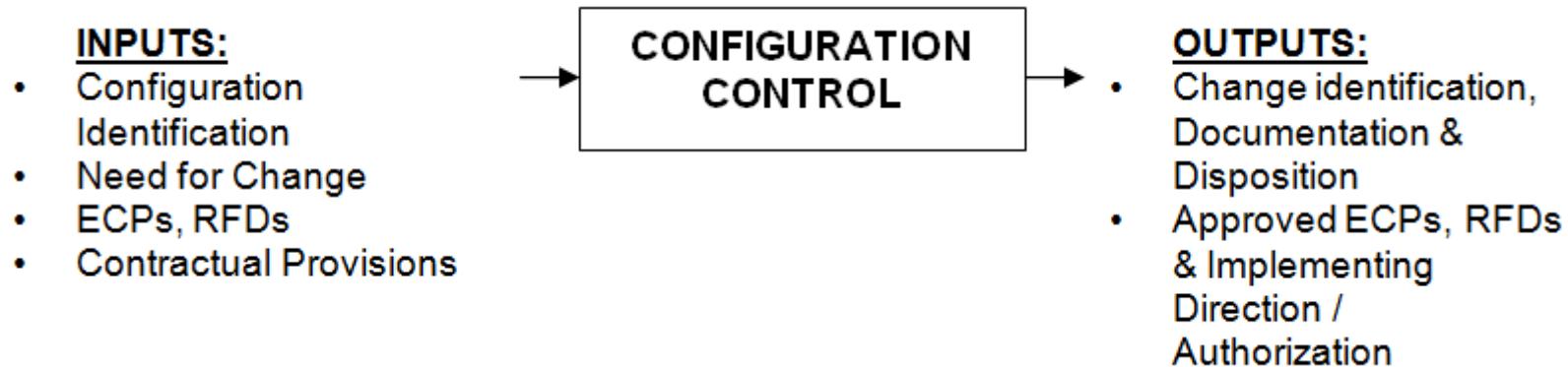
- Used to verify that the planned performance of the CI meets the requirements stated in its performance specification
- Basically checking performance

## Physical Configuration Audits (PCA):

- Used to examine the actual configuration of the CI that is representative of the product configuration
- Lead to the establishment of a Product Baseline
- A PCA involves:
  - Checking drawings against IBOM
  - Verifying that part(s) depicted on drawing are a part of the vehicle
  - Comparing production parts against drawings

The Product Baseline is the approved technical documentation which describes the CI configuration during the production, fielding/deployment and operational support phases of its life cycle!

- Uses a systematic process to identify, document, justify, evaluate, approve, incorporate and verify **changes**
  - The Configuration Control Authority (CCA) controls the product
  - The Current Document Change Authority (CDCA) controls the documentation
  - An Application Activity (AA) uses the product or documentation



- Current policy, business practice and information technology supports digital data
- The former preference for the Government to buy access to digital data, rather than have delivery of data, has changed

*A best practice is to have an Integrated Data Environment (IDE)*

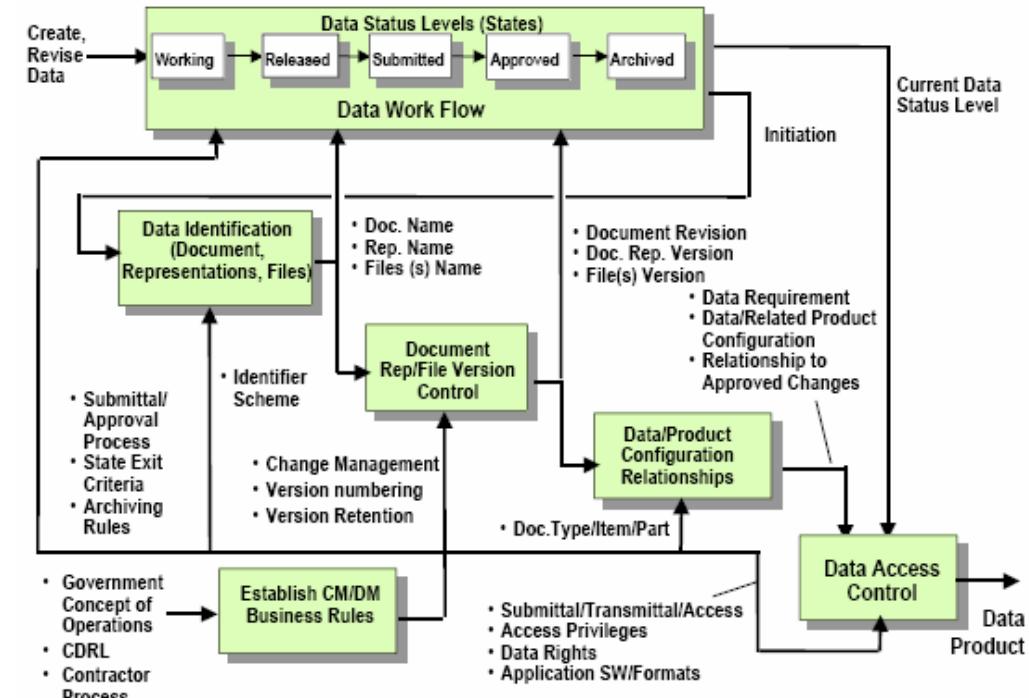


Figure 9-1. CM Related Data Management Activity Model



# Benefits of CM



## Why perform CM?

- Buyers and sellers have a common basis for the product's acquisition and use
- Decisions are based on accurate and current information
- Enhanced production repeatability for parts
- Applicable data is readily available, avoiding guesswork and trial and error, costly errors of ad hoc, erratic change management and downstream surprises, leading to cost and schedule savings
- Verification and recording of changes are incorporated into the product
- Establishment and maintenance of a high level of confidence in the product information

## Without CM:

- Schedule delays and costs for changes
- Mismatch with support assets
- Equipment inconsistent with maintenance instructions; equipment failures



# The Next Steps for a Program/Project



Given the numerous benefits of CM, here are the next steps in implementing Configuration Management practices:

1. Ensure that CM-related language is incorporated into the contract\*\*
  - Contact the CM team for Statement of Work (SOW) development
  - CM team will create a SOW tailored to the program
2. Enforce the contract to ensure receipt of deliverables
3. Work with the CM team to setup configuration control boards, data management training, etc.

**\*\* The contract documentation (SOW & CDRLs) is the MOST CRITICAL piece in the CM process**

- It stipulates everything that will occur after the contract is signed
- If its not in the SOW, it will cost more to add it at a later stage



# Primary CM References



- MIL-HDBK-61A: Configuration Management Guidance
- MIL-STD-31000: DoD Standard Practice -Technical Data Packages
- EIA-649A: National Consensus Standard for Configuration Management
- MIL-STD-974: Contractor Integrated Technical Information Services (CITIS)



# POCs



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# Questions



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